2020
ZOOLOGY
[HONOURS]
Paper : II
[NEW SYLLABUS]

Full Marks : 75 Time : 4 Hours

The figures in the right-hand margin indicate marks.
Candidates are required to give their answers in their own words as far as practicable.

1. Answer any **five** questions: 1×5=5

   a) Give the composition of honey.

   b) Why is culling necessary?

   c) Why cAMP called second messenger?

   d) Name two foreign breeds of cow.

   e) What is denier?

   f) Give role of H1 protein in nucleosome.

   g) What are phanerozoites?

   h) Write full name of GPCR.

2. Answer any **six** questions: 2×6=12

   a) What are ETL and EIL?

   b) What is zonula adherens?

   c) Distinguish penaeid and non-penaeid prawns.

   d) What is uperisation?

   e) Define extra-intestinal amoebiasis.

   f) How HCG is related to induced breeding?

   g) Distinguish channel protein vs carrier protein.

   h) What is hydatid cyst?

   i) What is pullet and broiler?

3. Answer any **three** questions: 6×3=18

   a) Give a table showing name, pathogen, symptoms (main) and remedial measures of two bacterial and one protozoan poultry disease. 2+2+2

   b) Write short notes on: 4+2

      i) Methods of fish seed transport

      ii) Malarial fever

   c) Write briefly on: 4+2

      i) Cell cycle checkpoint

      ii) Types of insecticide (based on chemical nature)

d) Illustrate the structure associated with disease transmission in tick. Name two diseases transmitted by tick. 4+2=6

e) Describe the structure of Langstroth box with diagram. What is significance of bee space? 5+1=6

4. Answer any **four** questions: 10×4=40

a) Define apoptosis. Differentiate it from necrosis. Describe the molecular mechanism of apoptosis emphasizing on the role of caspase in it. What is the involvement of apoptosis in normal physiology and development of animals? 1+2+5+2=10

b) Comment on: 3+3+4

i) HTST and LTLT method (pasteurisation)

ii) Promastigote and amastigote forms

iii) Cell adhesion molecules

c) i) Name two pearl producing species in India. Describe the process of nucleus insertion in Artificial Pearl Culture. What is convalescence? 1+3+1

ii) Write on the advantages, disadvantages and factors affecting artificial insemination technique. 5

d) i) What do you mean by active transport? Distinguish between primary and secondary active transport. 2+2=4

ii) Discuss the structure of Na-K ATPase pump and its mechanism of transport. Define antiport with example. 4+2=6

e) Draw and describe the life cycle stages of *Fasciola hepatica* in intermediate host. What is fascioliasis? Give its symptoms and prophylaxis. 6+1+3=10

f) Give an account on symptoms of damage caused by Brinjal shoot and fruit borer studied by you. How is this pest controlled? Write a short note on rodenticides. 3+4+3=10